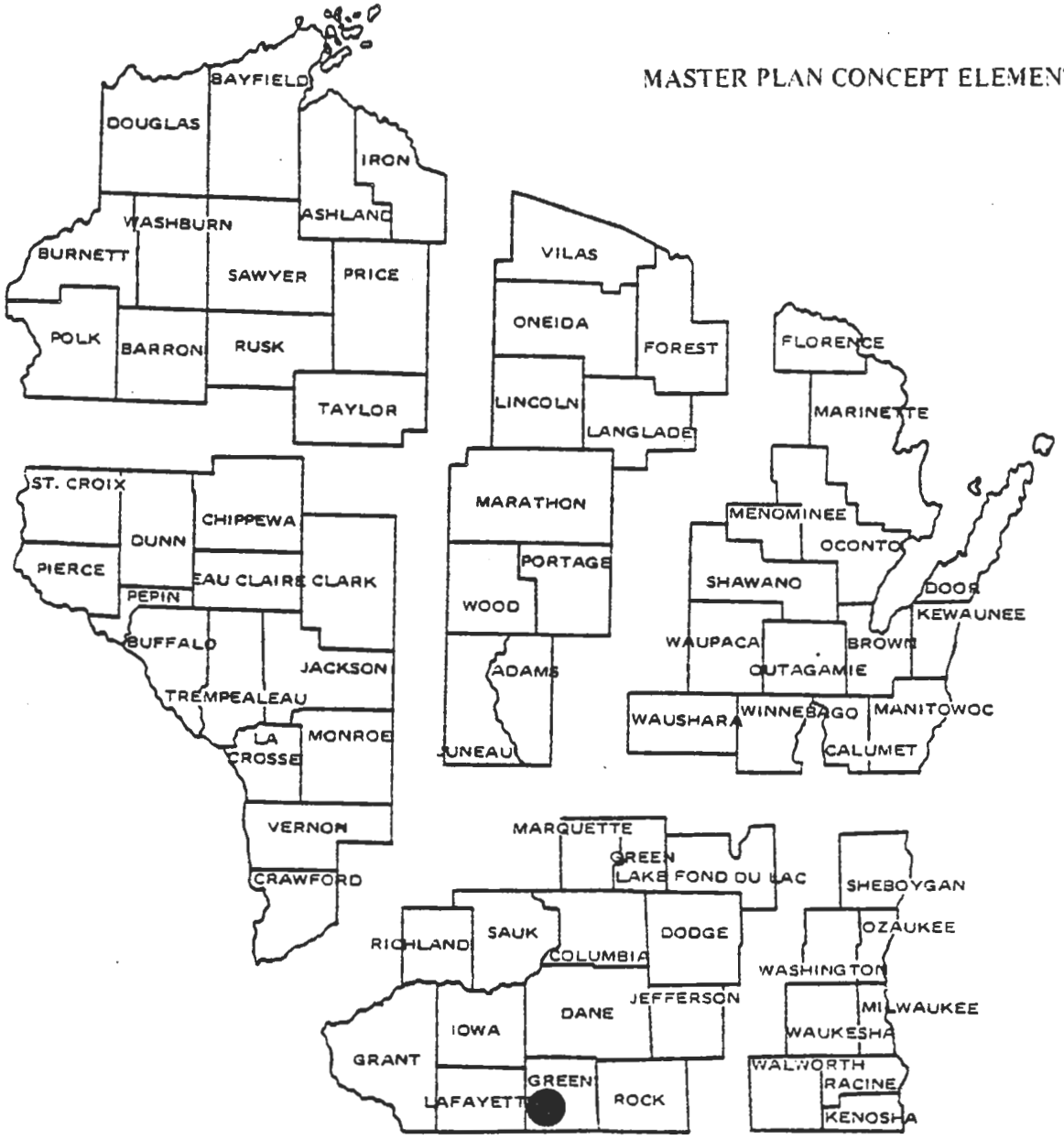
BROWNTOWN-CADIZ SPRINGS
STATE RECREATION AREA

MASTER PLAN CONCEPT ELEMENT



Approved by Natural Resources Board:

November 20, 1980
Date

PROPERTY TASK FORCE

Leader – Dennis Kulhanek, Planning Coordinator
Bruce Folley - Wildlife Mgr.
Clifford Brynildson - Area Fish Mgr.
Reynold Zeiler - Green Co. Work Unit Mgr.
Paul Pingrey - Area Forester

Submitted: June 25, 1979

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

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BROWNTOWN-CADIZ SPRINGS STATE RECREATION AREA CONCEPTUAL MASTER PLAN

SECTION I - ACTIONS

A. Goal and Objectives

1. Goal: To manage and develop the project as a State Recreation Area, to improve wildlife, fishery and recreational use.

2. Objectives:

   a. Provide 1,500 man days of small game and waterfowl hunting activity.

   b. Provide 8,000 man days of fishing to include both trout and warmwater species.

   c. Maintain an estimated annual park attendance of 76,000 users.

   d. Maintain 80 acres of oak opening prairie and 60 acres of dry southern forest to provide good game habitat and an interesting landscape.

B. Recommended Management and Development Program

1. Development:

   a. Develop a picnic area and associated play area adjacent to the northeast corner of Zander Lake. Thinning and cutting some parts of pine plantations there will be necessary. Obliterating road from northeast corner of Zander Lake east through pine plantation to town road will also be necessary.

   b. Erect fencing along that portion of the town road adjacent to the use area to discourage the public from parking on the roadside and walking into the park. Seek the cooperation of the township to ban and enforce no parking along this road.

   c. Develop a northern pike rearing pond in the southeast portion of Beckman Lake. Dike construction of approximately 600' required.

2. Management:

   a. Fisheries

      If feasible, a northern pike rearing pond will be constructed on the property and pike introduced to Beckman Lake to reduce the panfish population.

      Consideration will be given to prohibiting or strictly limiting the harvest of both northern pike and largemouth bass on Beckman Lake. Harvest may be controlled by either a high size limit or use of the slot-type size limit depending on the amount of natural reproduction. To promote production of largemouth bass, consideration should also be given to installing an aeration system in Beckman Lake to prevent winter freeze-out.

      Zander Lake will continue to be managed as a trout fishery.

   b. Wildlife

      A waterfowl rest area may be created to include Zander Lake, the southeast portion of Beckman Lake and lands adjacent to these waters. This area will be closed to waterfowl hunting, until such time as other management may be warranted.

      The wildlife portion of the property will continue to be managed for public hunting, but numbers of hunters could be limited in accord with the carrying capacity of the land as authorized by State Statute 23.091 in order to maintain good cover and provide quality hunting.

   c. Vegetative

      Improvement of the area's grasslands to improve wildlife nesting habitat will be pursued. Good wildlife habitat and an interesting landscape will also be maintained by providing 80 acres of oak opening prairie and 60 acreas of dry southern forest. Adequate protection of the Browntown Oak Forest Scientific Area will be provided and the quality of the site environment will be monitored at reasonable intervals.

C. Maps

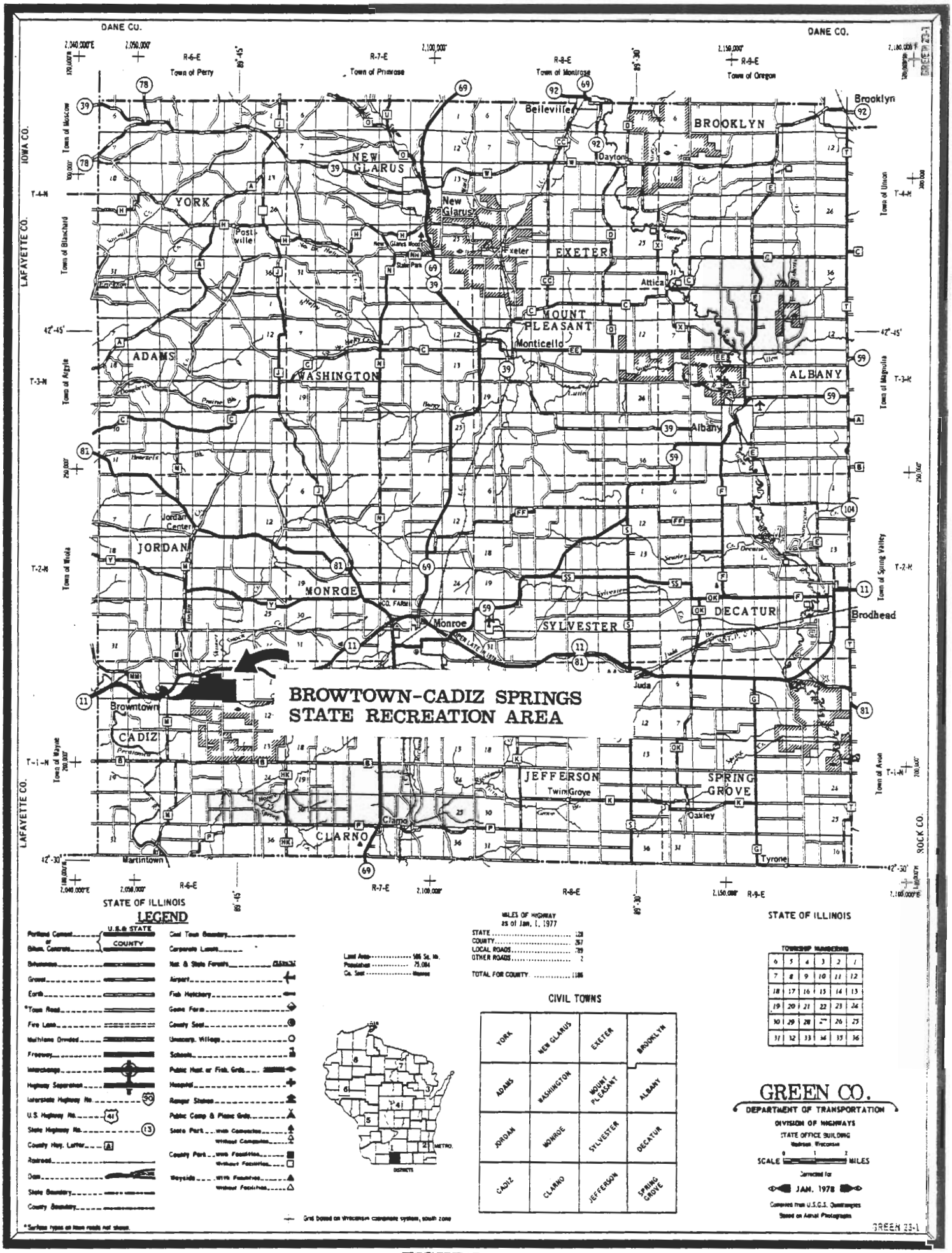


FIGURE 1
COUNTY LOCATION MAP

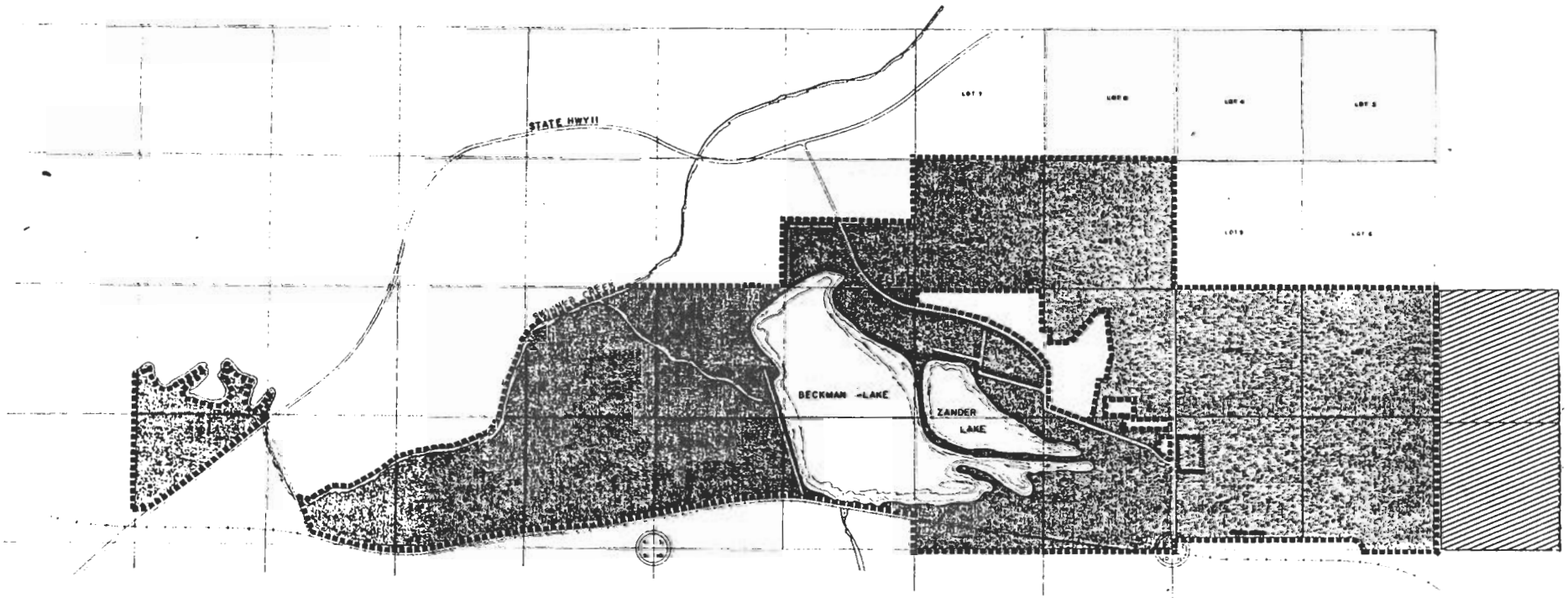
FIGURE 3—OWNERSHIP MAP

State owned

Park boundary

Wildlife Area boundary
(proposed Recreation Area boundary)

Lease Area



WISCONSIN DEPARTMENT OF NATURAL RESOURCES
BUREAU OF PARKS AND RECREATION
PARK PLANNING AND DEVELOPMENT

OWNERSHIP AND ACQUISITION MAP
BROWNTOWN-CADIZ SPRINGS STATE RECREATION AREA
GREEN COUNTY

Drawn by
Area by M. LEIDER
Drawing number
date 6-6-78

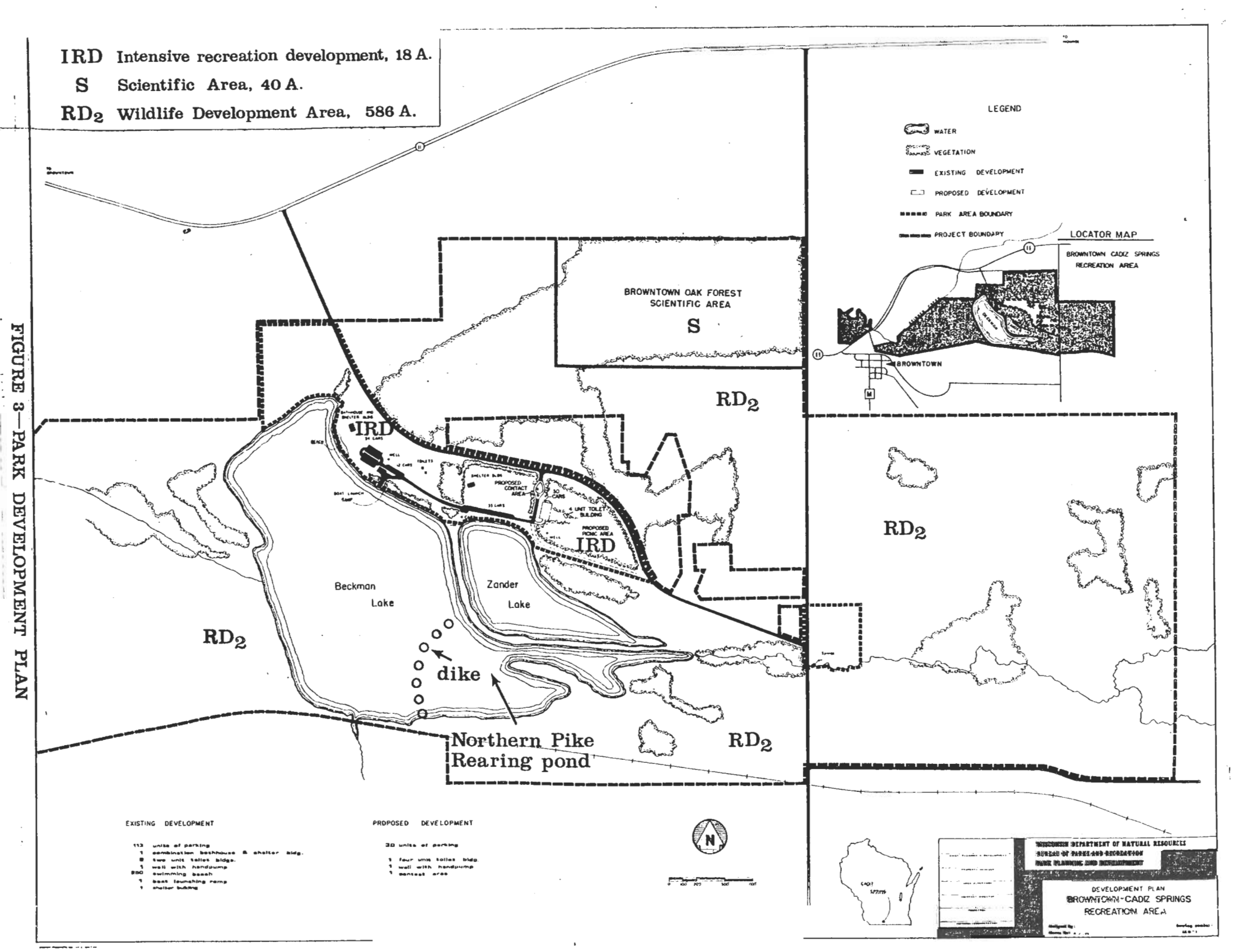


FIGURE 3—PARK DEVELOPMENT PLAN

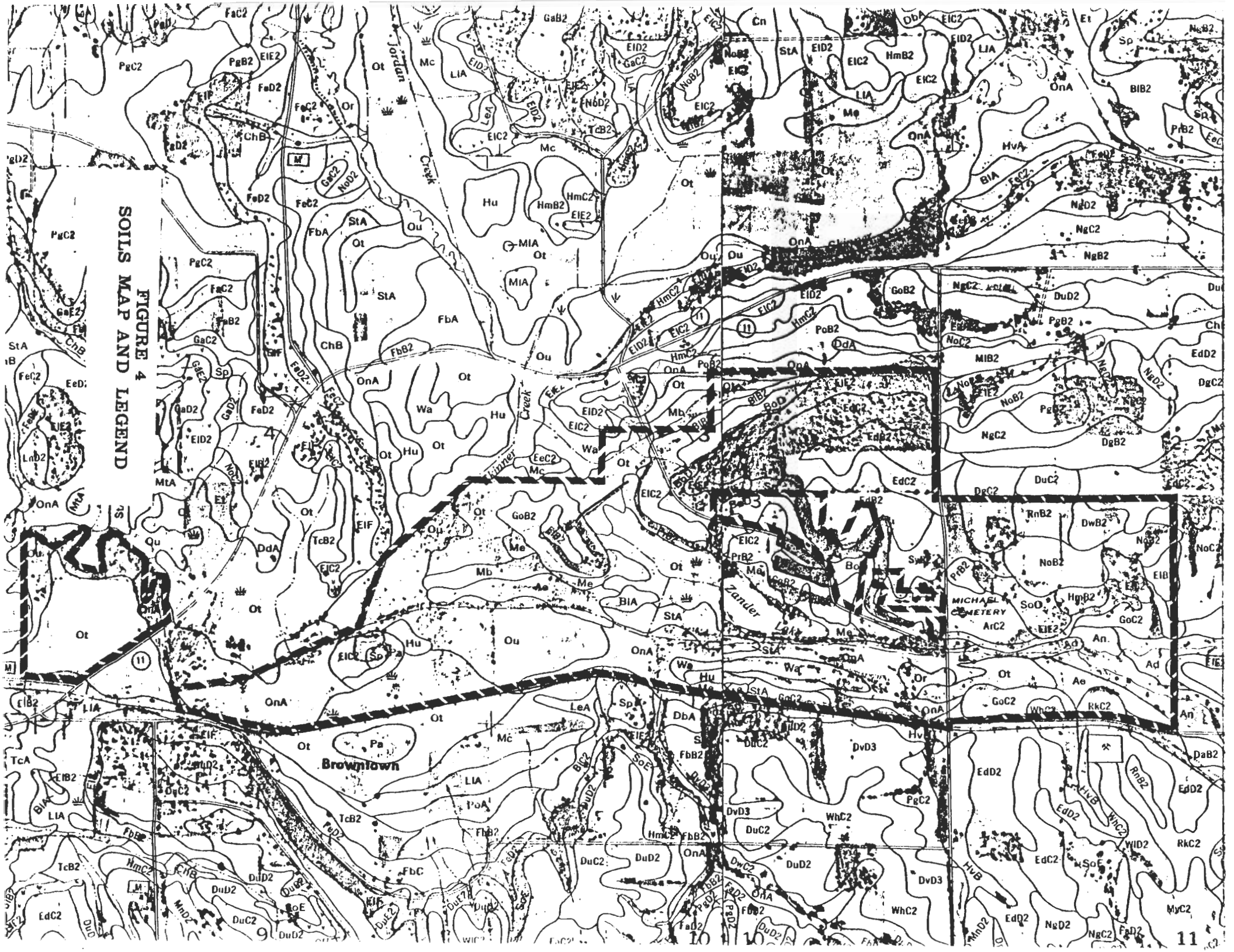


FIGURE 4
SOILS MAP AND LEGEND

SOIL

The first capital letter is the initial one of
C, D, E, or F, shows the slope. Most symb
soils, but some are for land types that have
2 or 3, in a symbol shows that the soil is er

SYMBOL	NAME
Ac	Adrian muck
Ad	Alluvial land
Ae	Alluvial land, wet
An	Arenzville silt loam
ArB2	Arland loam, warm variant, 2 to 6 percent slopes, eroded
ArC2	Arland loam, warm variant, 6 to 12 percent slopes, eroded
ArD2	Arland loam, warm variant, 12 to 20 percent slopes, eroded
AsB2	Ashdale silt loam, 2 to 6 percent slopes, eroded
AsC2	Ashdale silt loam, 6 to 12 percent slopes, eroded
AsD2	Ashdale silt loam, 12 to 20 percent slopes, eroded
BlA	Billett sandy loam, 0 to 2 percent slopes
BlB2	Billett sandy loam, 2 to 6 percent slopes, eroded
BlC2	Billett sandy loam, 6 to 12 percent slopes, eroded
BoD	Boone fine sand, 2 to 20 percent slopes
Br	Brookston silt loam
CdB2	Cadiz silt loam, 2 to 6 percent slopes, eroded
CdC2	Cadiz silt loam, 6 to 12 percent slopes, eroded
ChB	Chaseburg silt loam, 2 to 6 percent slopes
ChC	Chaseburg silt loam, 6 to 12 percent slopes
Cn	Chaseburg and Arenzville silt loams
Co	Colwood silt loam
DaA	Dakota loam, 0 to 2 percent slopes
DaB2	Dakota loam, 2 to 6 percent slopes, eroded
DbA	Dells silt loam, 0 to 3 percent slopes
Dc	Del Rey silt loam
DdA	Dickinson sandy loam, 1 to 3 percent slopes
DeB2	Dodge silt loam, 2 to 6 percent slopes, eroded
DeC2	Dodge silt loam, 6 to 12 percent slopes, eroded
DgB2	Dodgeville silt loam, 2 to 6 percent slopes, eroded
DgC2	Dodgeville silt loam, 6 to 12 percent slopes, eroded
DgC3	Dodgeville silt loam, 6 to 12 percent slopes, severely eroded
DgD2	Dodgeville silt loam, 12 to 20 percent slopes, eroded
DoB2	Downs silt loam, 2 to 6 percent slopes, eroded
DoC2	Downs silt loam, 6 to 12 percent slopes, eroded
DsA	Downs silt loam, heavy substratum, 0 to 2 percent slopes
DsB	Downs silt loam, heavy substratum, 2 to 6 percent slopes
DsB2	Downs silt loam, heavy substratum, 2 to 6 percent slopes, eroded
DsC2	Downs silt loam, heavy substratum, 6 to 12 percent slopes, eroded
DuB2	Dunbarton silt loam, 2 to 6 percent slopes, eroded
DuC2	Dunbarton silt loam, 6 to 12 percent slopes, eroded
DuD2	Dunbarton silt loam, 12 to 20 percent slopes, eroded
DuE2	Dunbarton silt loam, 20 to 30 percent slopes, eroded
DvD3	Dunbarton silty clay loam, 10 to 20 percent slopes, severely eroded
DwB2	Durand silt loam, 2 to 6 percent slopes, eroded
DwC2	Durand silt loam, 6 to 12 percent slopes, eroded
EdB2	Edmund silt loam, 2 to 6 percent slopes, eroded
EdC2	Edmund silt loam, 6 to 12 percent slopes, eroded
EdD2	Edmund silt loam, 12 to 20 percent slopes, eroded
EeC2	Eleva sandy loam, 6 to 12 percent slopes, eroded
EeD2	Eleva sandy loam, 12 to 20 percent slopes, eroded
ElB2	Elkmound sandy loam, 2 to 6 percent slopes, eroded
ElC2	Elkmound sandy loam, 6 to 12 percent slopes, eroded
ElD2	Elkmound sandy loam, 12 to 20 percent slopes, eroded
ElE2	Elkmound sandy loam, 20 to 30 percent slopes, eroded
ElF	Elkmound sandy loam, 30 to 45 percent slopes
Et	Ettrick silt loam
FaB2	Fayette silt loam, 2 to 6 percent slopes, eroded
FaC2	Fayette silt loam, 6 to 12 percent slopes, eroded
FaD2	Fayette silt loam, 12 to 20 percent slopes, eroded
FbA	Fayette silt loam, benches, 0 to 2 percent slopes
FbB2	Fayette silt loam, benches, 2 to 6 percent slopes, eroded
FbC	Fayette silt loam, benches, 6 to 12 percent slopes
FcB2	Fayette silt loam, loamy substratum, 2 to 6 percent slopes, eroded
FcC2	Fayette silt loam, loamy substratum, 6 to 12 percent slopes, eroded
FcD2	Fayette silt loam, loamy substratum, 12 to 20 percent slopes, eroded
FeC2	Fayette silt loam, valleys, 6 to 12 percent slopes, eroded
FeD2	Fayette silt loam, valleys, 12 to 20 percent slopes, eroded
FlA	Flagg silt loam, 0 to 2 percent slopes
FlB2	Flagg silt loam, 2 to 6 percent slopes, eroded
FlC2	Flagg silt loam, 6 to 12 percent slopes, eroded
FnC2	Fox sandy loam, 6 to 12 percent slopes, eroded
FnD2	Fox sandy loam, 12 to 20 percent slopes, eroded
FoA	Fox loam, 0 to 2 percent slopes
FoB2	Fox loam, 2 to 6 percent slopes, eroded
FoC2	Fox loam, 6 to 12 percent slopes, eroded
FsA	Fox silt loam, 0 to 2 percent slopes
FsB2	Fox silt loam, 2 to 6 percent slopes, eroded
GaB2	Gale silt loam, 2 to 6 percent slopes, eroded
GaC2	Gale silt loam, 6 to 12 percent slopes, eroded
GaD2	Gale silt loam, 12 to 20 percent slopes, eroded
GaE2	Gale silt loam, 20 to 30 percent slopes, eroded
GoA	Gotham loamy sand, 0 to 2 percent slopes
GoB2	Gotham loamy sand, 2 to 6 percent slopes, eroded
GoC2	Gotham loamy sand, 6 to 12 percent slopes, eroded
GrB2	Griswald silt loam, 2 to 6 percent slopes, eroded
GrC2	Griswald silt loam, 6 to 12 percent slopes, eroded
HbA	Hebron silt loam, 0 to 2 percent slopes
HbB2	Hebron silt loam, 2 to 6 percent slopes, eroded
HeA	Hebron silt loam, mottled subsoil variant, 0 to 3 percent slopes
HmB2	Hixton loam, 2 to 6 percent slopes, eroded
HmC2	Hixton loam, 6 to 12 percent slopes, eroded
Hu	Houghton mucky peat
HvA	Huntsville silt loam, 0 to 2 percent slopes
HvB	Huntsville silt loam, 2 to 6 percent slopes
JuB2	Juda silt loam, 2 to 6 percent slopes, eroded
JuC2	Juda silt loam, 6 to 12 percent slopes, eroded
LaB	Lamartine silt loam, 1 to 6 percent slopes
LeA	Lawler loam, 0 to 2 percent slopes

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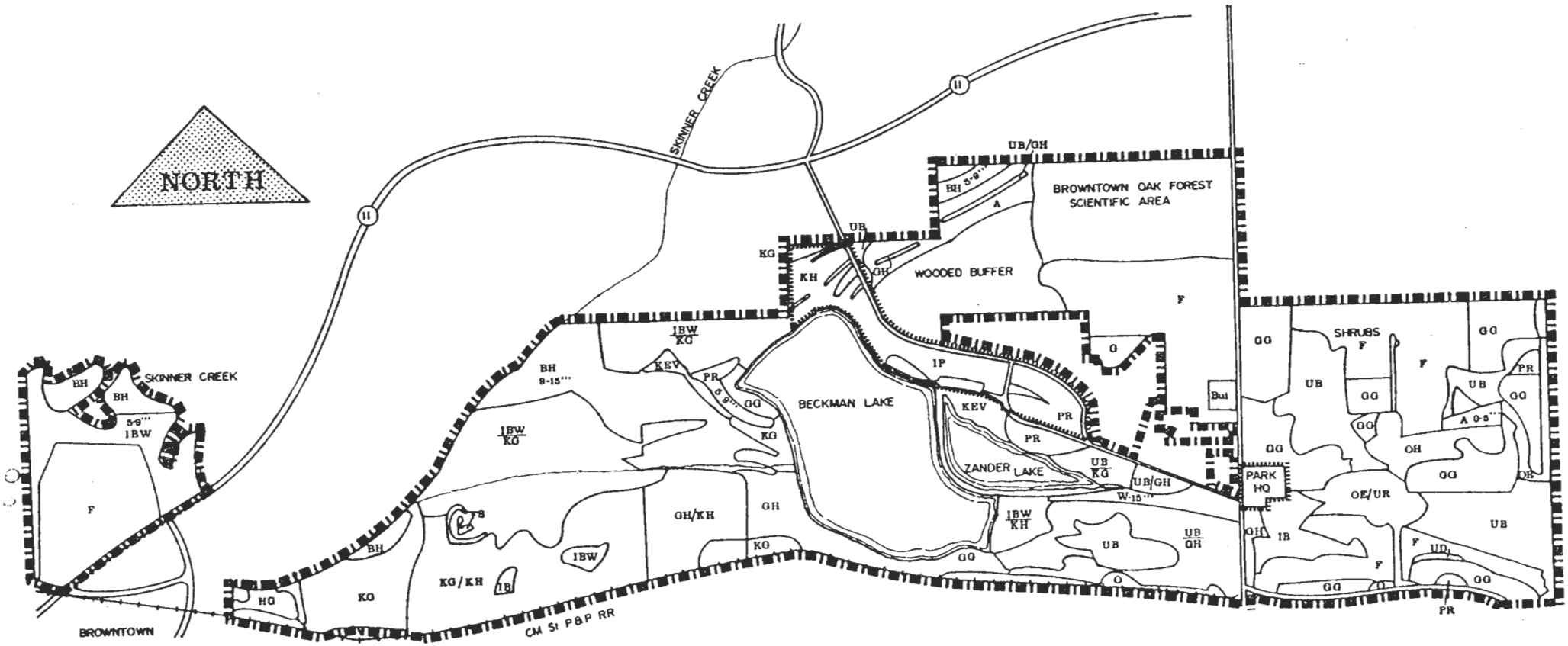
:END

oil name. A second capital letter, A, B,
ithout a slope letter are for nearly level
nsiderable range of slope. A final number,
or severely eroded.

SYMBOL	NAME
LlA	Lawler silt loam, 0 to 3 percent slopes
LnC2	Lindstrom sandy loam, 6 to 12 percent slopes, eroded
LnD2	Lindstrom sandy loam, 12 to 20 percent slopes, eroded
LsC	Lindstrom silt loam, 6 to 12 percent slopes
LsD2	Lindstrom silt loam, 12 to 20 percent slopes, eroded
Mb	Marshan loam
Mc	Marshan silt loam
Md	Matherton silt loam
Me	Maumee sandy loam
MlA	Meridian loam, 0 to 2 percent slopes
MlB2	Meridian loam, 2 to 6 percent slopes, eroded
MlC2	Meridian loam, 6 to 12 percent slopes, eroded
MmB2	Miami silt loam, 2 to 6 percent slopes, eroded
MmC2	Miami silt loam, 6 to 12 percent slopes, eroded
MmD2	Miami silt loam, 12 to 20 percent slopes, eroded
MnC2	Mifflin loam, 6 to 12 percent slopes, eroded
MnD2	Mifflin loam, 12 to 20 percent slopes, eroded
MoC2	Mifflin loam, shallow solum variant, 6 to 12 percent slopes, eroded
MoD2	Mifflin loam, shallow solum variant, 12 to 20 percent slopes, eroded
MrB2	Morley silt loam, 2 to 6 percent slopes, eroded
MrC2	Morley silt loam, 6 to 12 percent slopes, eroded
MrD2	Morley silt loam, 12 to 20 percent slopes, eroded
MsB2	Muscatine silt loam, 2 to 6 percent slopes, eroded
MtA	Muscatine silt loam, benches, 0 to 3 percent slopes
MuA	Muscatine silt loam, loamy substratum, 0 to 3 percent slopes
MyB2	Myrtle silt loam, 2 to 6 percent slopes, eroded
MyC2	Myrtle silt loam, 6 to 12 percent slopes, eroded
Na	Navan silt loam
NgB2	NewGlarus silt loam, 2 to 6 percent slopes, eroded
NgC2	NewGlarus silt loam, 6 to 12 percent slopes, eroded
NgD2	NewGlarus silt loam, 12 to 20 percent slopes, eroded
NgE2	NewGlarus silt loam, 20 to 30 percent slopes, eroded
NlC3	NewGlarus soils, 6 to 12 percent slopes, severely eroded
NlD3	NewGlarus soils, 12 to 20 percent slopes, severely eroded
NoB2	Northfield loam, 2 to 6 percent slopes, eroded
NoC2	Northfield loam, 6 to 12 percent slopes, eroded
NoC2	Northfield loam, 12 to 20 percent slopes, eroded
NoE2	Northfield loam, 20 to 30 percent slopes, eroded
OcA	Ockley sandy loam, 0 to 3 percent slopes
OeA	Ockley loam, 0 to 2 percent slopes
OeB	Ockley loam, 2 to 6 percent slopes
OkA	Ockley silt loam, 0 to 2 percent slopes
OkB2	Ockley silt loam, 2 to 6 percent slopes, eroded
OkC2	Ockley silt loam, 6 to 12 percent slopes, eroded
OlB2	Ogle silt loam, 2 to 6 percent slopes, eroded
OlC2	Ogle silt loam, 6 to 12 percent slopes, eroded
OnA	Orion silt loam, 0 to 3 percent slopes
Or	Orion silt loam, wet variant
OsA	Oshtemo loamy sand, 0 to 2 percent slopes
OsB2	Oshtemo loamy sand, 2 to 6 percent slopes, eroded
OsC2	Oshtemo loamy sand, 6 to 12 percent slopes, eroded
Ot	Ossian silt loam
Ou	Otter silt loam
Pa	Palms muck
PgB2	Palsgrove silt loam, 2 to 6 percent slopes, eroded
PgC2	Palsgrove silt loam, 6 to 12 percent slopes, eroded
PgD2	Palsgrove silt loam, 12 to 20 percent slopes, eroded
PlD3	Palsgrove silty clay loam, 12 to 20 percent slopes, severely eroded
PnB2	Pecatonica silt loam, 2 to 6 percent slopes, eroded
PnC2	Pecatonica silt loam, 6 to 12 percent slopes, eroded
PnD2	Pecatonica silt loam, 12 to 20 percent slopes, eroded
PoA	Pillot silt loam, 0 to 2 percent slopes
PoB2	Pillot silt loam, 2 to 6 percent slopes, eroded
PoC2	Pillot silt loam, 6 to 12 percent slopes, eroded
PrB2	Plainfield loamy sand, 0 to 6 percent slopes, eroded
Rh	Riverwash
RkC2	Rockton loam, 6 to 12 percent slopes, eroded
RkD2	Rockton loam, 12 to 20 percent slopes, eroded
RnB2	Rockton silt loam, 2 to 6 percent slopes, eroded
RnC2	Rockton silt loam, 6 to 12 percent slopes, eroded
RoC	Rodman gravelly loam, 2 to 12 percent slopes
RoE	Rodman gravelly loam, 12 to 30 percent slopes
SaB2	Saybrook silt loam, 2 to 6 percent slopes, eroded
SaC2	Saybrook silt loam, 6 to 12 percent slopes, eroded
ScB2	Sayles ville silt loam, 2 to 6 percent slopes, eroded
Se	Sebewa silt loam
SfA	Shiffer loam, 0 to 3 percent slopes
SoC	Sogn silt loam, 2 to 12 percent slopes
SoE	Sogn silt loam, 12 to 30 percent slopes
Sp	Steep stony and rocky land
SsB	Stronghurst silt loam, 2 to 6 percent slopes
StA	Stronghurst silt loam, benches, 0 to 3 percent slopes
SuA	Stronghurst silt loam, loamy substratum, 0 to 3 percent slopes
SyB2	Sylvester silt loam, 2 to 6 percent slopes, eroded
SyC2	Sylvester silt loam, 6 to 12 percent slopes, eroded
TaB2	Tama silt loam, 2 to 6 percent slopes, eroded
TaC2	Tama silt loam, 6 to 12 percent slopes, eroded
TbA	Tama silt loam, benches, 0 to 2 percent slopes
TbB	Tama silt loam, benches, 2 to 6 percent slopes
TcA	Tell silt loam, 0 to 2 percent slopes
TcB2	Tell silt loam, 2 to 6 percent slopes, eroded
TcC2	Tell silt loam, 6 to 12 percent slopes, eroded
Te	Terrace escarpments
ThA	Thackery silt loam, 0 to 3 percent slopes
Wa	Wallkill silt loam
WdC2	Westville loam, 6 to 12 percent slopes, eroded
WeB2	Westville silt loam, 2 to 6 percent slopes, eroded
WeC2	Westville silt loam, 6 to 12 percent slopes, eroded
WeD2	Westville silt loam, 12 to 20 percent slopes, eroded
WhB2	Whalan loam, 2 to 6 percent slopes, eroded
WhC2	Whalan loam, 6 to 12 percent slopes, eroded
WlB2	Whalan silt loam, 2 to 6 percent slopes, eroded
WlC2	Whalan silt loam, 6 to 12 percent slopes, eroded
WlD2	Whalan silt loam, 12 to 20 percent slopes, eroded
WnB2	Winnebago silt loam, 2 to 6 percent slopes, eroded
WnC2	Winnebago silt loam, 6 to 12 percent slopes, eroded



BROWNTOWN CADIZ SPRINGS
RECREATION AREA

Note: For mapping terms & symbols refer to manual code 8625.2

FIGURE 5—VEGETATIVE COVER MAP

FORM 2800–8

Scientific Area No. 23

SCIENTIFIC AND NATURAL AREA REPORT
Wisconsin Scientific Areas Preservation Council

NAME OF AREA Browntown Oak Forest INSPECTION DATE May 9, 1976 (latest)

QUARTER SW COUNTY Green TWSP. 1N RANGE 6E SECTIONS 3

BOUNDARIES AND ACREAGE of proposed or established area and buffer: Scientific zone: N 900 feet of lot 9, and the N 900 feet of the east 600 feet of lot 10, including about 40 acres. Buffer zone: woods to the southwest in lot 10.

ACCESS TO AREA: The oak forest is located in southwestern Green County between Monroe and Browntown. From the Highway 11 and 81 junction in Monroe, follow Highway 11 west 5.9 miles, then south 1/4 mile on a town road to the eastern boundary of the site.

DESCRIPTION OF AREA: Outstanding features, primary and secondary biotic communities, dominants, understory and rare species, topography, soils geology and archeology.

Browntown Oak Forest occupies the north facing slope of a St. Peter sandstone ridge in southwestern Wisconsin's "driftless area." On the ridge top and slope the soil type is a shallow Dodgeville silt loam. The slope varies from four percent near the top to nine percent at the lower edge. Here the sandstone outcrops and falls steeply 50 feet to a low plain of Northfield sandy loam soil. This variation in soil type and topography fosters a range in plant communities from southern dry-mesic forest on the upper slope dominated by red oak to the southern dry forest on the sandstone outcrops and lower plain dominated by white and black oaks. The five most important canopy trees of the dry-mesic forest, in decreasing order of importance values, are: red oak (age of 122-148 years), white oak, red elm, ironwood, and sugar maple. Lesser amounts of bitternut hickory, basswood, black cherry and walnut are present. Basal area is 114 square feet per acre; density is 129 trees per acre. The presence of numerous sugar maple saplings and seedlings indicates a gradual shift in forest tree composition to one of a more mesic nature. Common shrubs present include gray dogwood, gooseberries, hazelnut, choke cherry and downy arrow-wood. The sandstone escarpment provides low, shaded cliffs.

HISTORY OF LAND USE AND LIMITING FACTORS:

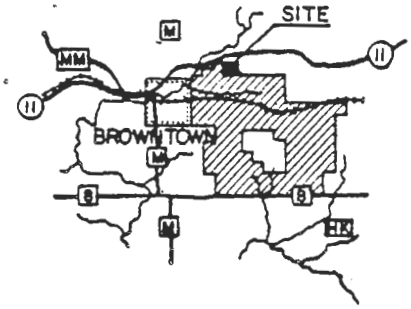
ADMINISTRATIVE INFORMATION: Landowner and administrator, existing and proposed management, degree of scientific, educational and recreational use of area, adjacent lands and compatibility. The tract is managed by the Department of Natural Resources; the property manager's address: Manager, Cadiz Springs State Park, Green County Agricultural Building, Monroe, 53566. Surrounding land use: pasture and old field to the north and south, road and agricultural lands to the east, buffer zone on west. It is used by hunters, hikers and classes from local schools.

REFERENCE INFORMATION: Person recommending area, references, quadrangle and other publications and date of action taken toward designation of area. Recommended by John T. Curtis and designated as a state scientific area in November, 1953. See Browntown 7.5' Quadrangle; plant species list and forest overstory quantitative data in Council files.

REPORT BY: William Tans DATE: rev. July 1976

Figure 6

REV. 6-75



LOCATION MAP—GREEN COUNTY

BROWNTOWN OAK FOREST SCIENTIFIC AREA

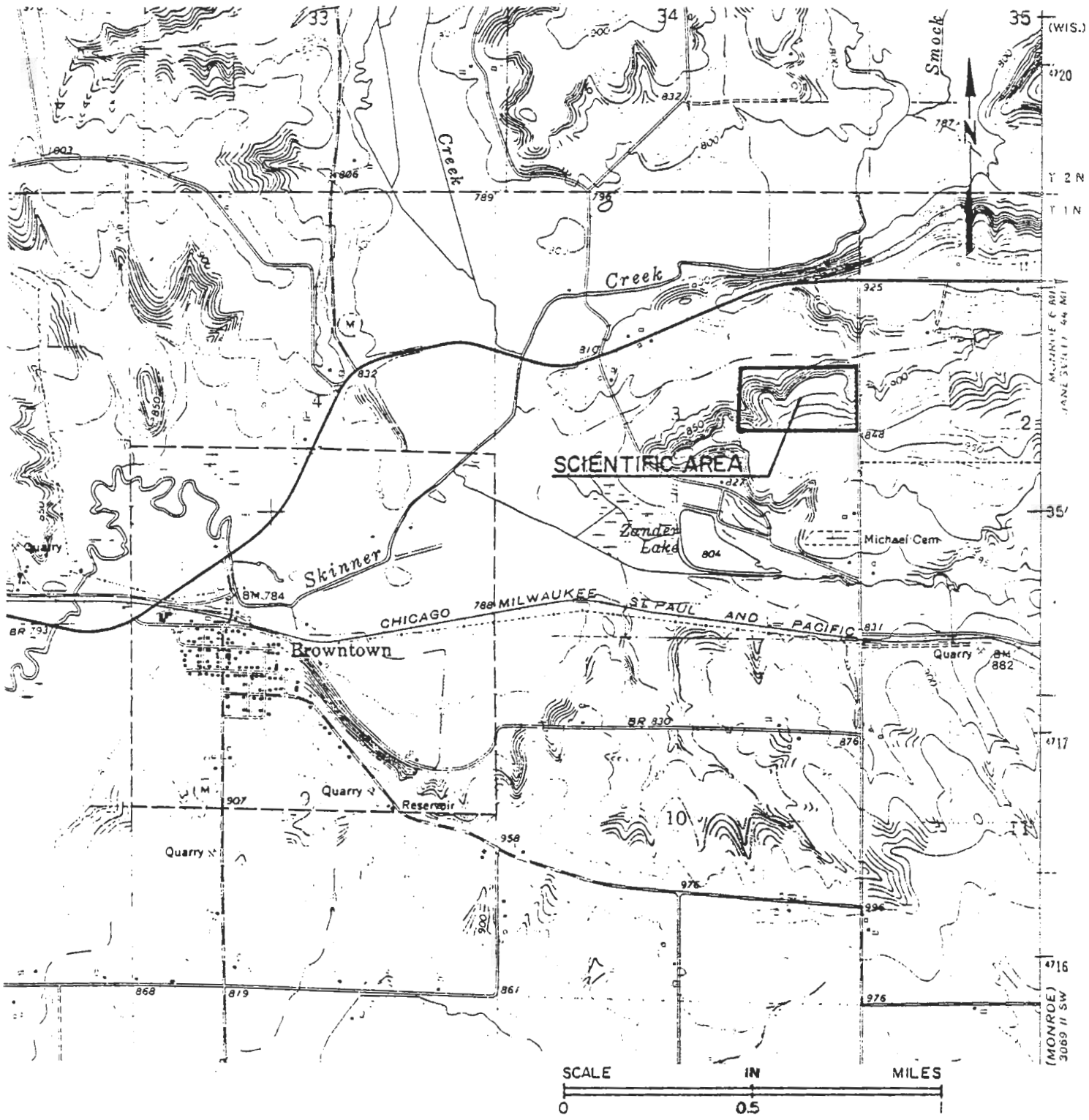


Figure 6

SECTION II - SUPPORT DATA

A. Background Information

1. Location:

The 625.88 acre Browntown State Wildlife Area and the 18.04 acre Cadiz Springs State Park are located in Green County, (Figure 1) and occupies part of Sections 2,3 and 4 in the Town of Cadiz, (T1N-R6E). The Chicago, Milwaukee, St. Paul and Pacific Railroad (CMP&P) between Monroe and Mineral Point borders the southern boundary of the project area for approximately one mile.

a. Relationship to Highways" Access to the park is by State Highway 11 from both east and west, and State Highway 69 feeds into the area of the park from both north and south.

b. Relationship to Population Centers: Distances from population centers to project area are given below.

Monroe -	8 miles
Freeport -	22 miles
Beloit -	41 miles
Janesville -	46 miles
Dubuque -	54 miles
Madison -	55 miles
Rockford -	59 miles
Milwaukee -	107 miles
Chicago -	130 miles

2. History of Area:

The first Northwest trail to Oregon went through this area. Mountain man Jim Bridger was active in the area as a fur buyer around 1800. Pioneer settlers in this area came from West Virginia and Virginia. Many references exist concerning a large cave northeast of the park residence which was used by Indians. Today its location is not known. Its entrance has probably been obliterated by rock fall and brush.

Located in the wildlife area by Cadiz Springs was the site of the Michael School which was the first school in Green County. Part of the school is incorporated into the residence on the Foley farm which the state now owns.

The present park residence was a family cheese factory in the late 1800's.

3. Chronology of Property's Establishment and Development:

1949 - Browntown Wildlife Area was established in response to interest shown by a local sportsman's group.
Initial purchase was 38.6 acres from Ralph Garwell in September of 1949. Zander Lake was included in the purchase.

1952 - Dike construction added 9 acres to Zander Lake.

1953 - Browntown Oak Forest Scientific Area was established.

1958-59 - Dike enlargement on Zander Lake adds an additional 6 acres of lake.

1965 - a) Beckman Lake, a 74-acre impoundment, was created. Many hours of labor were donated by the Green County Conservation League to this project.

b) A 34-acre wooded parcel was acquired along the western edge of the scientific area.

1970 - Cadiz Springs State Park (18 acres) was established within the Browntown Wildlife Area.

4. Past and Present Management Activities:

In the past, the Browntown Wildlife Area was managed for farm game, waterfowl and furbearers. In the early 1950's, thousands of trees and shrubs were planted, and sharecroppers were contracted to manipulate the open areas. Initially, the Browntown Public Hunting Area was leased covering approximately 4,000 acres of land. Because of the lack of good hunting cover on the leased area and concentration of hunting activity on the state-owned portion, all but 80 acres of the lease area have been cancelled. An estimated 1,170 participant days of hunting occur on the area.

The fish in Zander Lake were chemically eradicated twice in 1952 and 1966. In 1953, five pairs of adult largemouth bass and five pairs of adult bluegill were stocked prior to spawning, and provided good fishing until the early 1960's when the panfish species became stunted through overpopulation. Northern pike were stocked to serve as predators on the panfish but no positive benefits resulted. In early 1967, after the chemical eradication treatment of the lake, rainbow trout yearlings were stocked in Zander Lake which is managed primarily as a trout fishery. The current annual stocking quota is 4,000 rainbow and 1,000 brown trout yearlings. The resident population of largemouth bass, bluegills, pumpkinseed and green sunfish provide fishing after June 15 when the trout population has been cropped to a low level.

Fishing pressure has decreased primarily due to the earlier opening of the trout fishing season, loss of the bass fishery and the presence of small bluegills. Fishing pressure is estimated at 100 angling hours per surface acre per year.

Beckman Lake has been treated most years with 2-4 D and Aquathol Plus to cut back the profuse growth of macrophytes and algae but with only modest success. In June, 1974, 1,000 male carp were stocked in the lake to reduce aquatic vegetation by their rooting action and by increasing the turbidity of the water. Positive results were evident for only one year. Natural mortality decimated the carp population in a few years.

Cadiz Springs State Park is managed to meet the recreational day use needs of the area and currently has an annual attendance of approximately 70,000. Its facilities consist of the following (See Figure 3):

1 - A swimming beach with associated picnic area (parking 71 cars)

1 - Picnic area (parking 42 cars)

2 - Picnic shelters

1 - Set of vault toilets

1 - Well

1 - Boat landing on Beckman Lake (parking for 11 cars and 35 cars with trailers)

1 - Hiking trail (1.1 miles)

The project area consists of the Browntown Wildlife Area and Cadiz Springs State Park and is part of the Green County Work Unit. The work unit includes the Sugar River State Trail, New Glarus Woods and Cadiz Springs State Parks, New Glarus Public Hunting Grounds and the Albany, Liberty Creek and Browntown Wildlife Areas.

The following personnel are employed annually at the project area and may have secondary job responsibilities in the Green County Work Unit.

1 - Permanent

3 - Limited Term Employees, 10 months total time (includes 1 lifeguard)

B. Resource Capabilities and Inventory

1. Geology:

The project area lies at the southernmost edge of the driftless area in Wisconsin. Its site was subject to the action of former glacial Lake Pecatonica. This lake once covered most of the project site. The glacial dam was just west of the project area and wave action of this lake steepened the sides of valleys above this dam.

Much of the park, therefore, at the edge of glaciation is covered by alluvium. On higher elevations, these deposits have been eroded away to expose St. Peters sandstone. This sandstone and Sinnipee formation dolomite are the base rock of the project area. As the Sinnipee formation overlays the St. Peters sandstone, it is found only under the higher elevations within the project area.

2. Soils:

The top of ridges and upper slopes within the project area are silt loam soils. The New Glarus and Elkmound are the main series found in the north and west portion of the park at these elevations. The Dunbarton and Edmund series, also silt loam, are found in the southeast portion of the park on upland areas. All of these soils are well drained and tend to be found in the shallow phases within the project area. They have limitations for agriculture and forestry. Erosion and runoff are their main hazards.

In the lowlands surrounding the west portions of Zander's and Skinner's Creek are found the Orion, Otter and Arenzville soil series. These deep silt soils are apt to be wet and have good agricultural potential when drained. On the upper reaches of Zander's Creek (within the project) are found a mixture of excessively well-drained sandy soils of the Sogn, Northfield, Hixton, Boone Gotham and Durand series. They were formed in weathered sandstone or in alluvium and till. They are low in fertility and not suitable for crops or forestry (Figure 4).

3. Water Resources:

Skinner Creek and Zander's Creek flow through the project area. Two man-made lakes, Zander and Beckman, are in the project area. Zander Lake was originally 10 acres in extent but now covers 19 acres with 4,000 feet of frontage. Approximately 60% of the frontage on Zander Lake is available for fishing. It averages 6 feet in depth with a maximum of 12 feet. Water is derived from a stream fed by the large Cadiz Spring which has a flow of 582 gpm. Trout are stocked and bluegills, largemouth bass, pumpkinseed and green sunfish reproduce naturally. Beckman Lake is a 74-acre impoundment with a maximum depth of 17 feet with 11,200 feet of frontage. It has a watershed that is principally agricultural. The lake is also supplied from the spill-over of Zander Lake and Zander's Creek plus small seepage springs and one large spring of 700 gpm in the lakebed. There is continuous outflow from the lake.

Beckman Lake contains bluegills, green sunfish, pumpkinseed, bullheads, and largemouth bass. Northern pike have been introduced but natural reproduction has been low. Aquatic plants have become a nuisance because of high fertility of runoff that feeds into the lake. Dikes on both lakes are riprapped to prevent muskrat damage. In all there are 3,200 feet of diking.

4. Vegetative Cover (Figure 5):

The project area is a mixture of open grassland, upland and lowland brushy areas, cultivated and abandoned farmfields, oak woods, and some pine plantings.

The diversity of plant communities found reflects the varying exposures of slopes, the variety of soil types and the degrees of wetness and dryness found within the project area. Plant communities found are largely of the dry southern forest type. Bur, white and black oak and hickory are characteristic tree species of the site. The common shrubby species found are gray dogwood, hazelnut, and various species of rubus.

Some transition to mesic southern forest plant communities is taking place where red oak has come to dominate the canopy. This situation is found on the north facing slope of the northern part of the park designated as a scientific area. Witch hazel is a prominent shrub and there is a considerable number of other mesic species invading such as basswood, maple and elm. Outcroppings of St. Peters sandstone furnish a shaded cliff habitat in this area which has a rich herbaceous flora. Wet lowlands and dry lowlands also present a great variety of herbaceous plants such as asters, milkweeds and goldenrods.

The only timber stand lending itself to economic forestry is in the scientific area and under this designation it cannot be harvested. There are pine plantations at the northeast end of Zander Lake and the northwest end of Beckman Lake.

Historically this area of Green County was oak opening; that is groves of oak, mostly bur oak, interspersed with prairie.

5. Wildlife:

Deer, rabbit, squirrel, raccoon, opossum, fox, muskrat and mink are the main game mammals found within the project area. Birds include waterfowl, (various ducks which nest here or stop in passage) as well as shoreland and upland species. Ringneck pheasant is stocked on an annual basis and some reproduction takes place on the area.

6. Site Inventory:

a. Browntown Wildlife Area

Scientific Area	-	39.88 acres
Remaining Uplands	-	234.70 acres
Beckman Lake	-	74.00 acres
Zander Lake	-	19.00 acres
Remaining Lowland	-	258.30 acres
		625.88 acres

b. Cadiz Springs State Park

Picnic and Open Play Area	-	4.50 acres
Beach and Sunning Area	-	0.75 acres
Residence and Service Bldg.	-	3.04 acres
Roads and Parking Areas	-	1.38 acres
Pine Plantation	-	4.00 acres
Undeveloped Area	-	4.37 acres
		18.04 acres

7. Land Use Potential:

Lands within the proposed recreation area are classified as Wildlife Development Area (RD_2), Intensive Recreation Development (IRD) and Scientific (S). The location of these areas is illustrated on the development plan (Figure 3).

Intensive Recreational Development (IRD) accounts for approximately 18 acres. Thirteen acres are presently developed for picnic area, beach, boat landing and hiking trail. The remaining five acres will be developed as an additional picnic and play area on Zander Lake.

The 40-acre Browntown Oak Forest was designated as a State Scientific Area in November, 1953 (Figure 6).

Approximately 586 acres are classified as Wildlife Development Area (RD_2).

8. Historical and Archaeological Features:

There are no known historical or archaeological features on either the park or wildlife area property. Contact will be made with the State Historical Society, Historical Preservation Division, in advance of any proposed development.

C. Management Problems

1. Public Roads Within Project Area:

Persons and parties parking on these roads and walking to use the park. This usually occurs when the parking lots are full and has resulted in overuse of the park facilities, notably the swimming beach and in loss of user fees.

Higher concentrations of town roads in the eastern portion of the project area have made that portion of the public hunting ground more accessible and is a factor leading to undesirable hunter concentration.

2. Private Inholdings:

Private property within the project boundary precludes the abandonment of through town roads and of making a single entrance to the project area which would aid effective patrol and law enforcement, and collection of user fees. These inholdings also block effective in-park circulation patterns as regards service roads, hiking trails and the like.

3. Beach Location:

It is felt because of the location of the swimming beach at the park's extreme western end, poor distribution of use within the park has resulted.

4. Hunting Pressure:

Hunting pressure in the Browntown Wildlife Area has become concentrated within the state-owned portion. Factors tending to produce high hunter concentrations are as follows: (1) the size of the wildlife area; (2) location of state park in such a way as to effectively divide the wildlife area into two small units further compounding the size problem, the eastern unit, being more accessible, receives the bulk of hunter pressure; (3) the Department's programs of put and take pheasant stocking; (4) the absence of other lands suitable for public hunting in this portion of the county. These factors have led to deterioration of the hunting quality.

5. Fishery:

Stunted panfish in both Zander and Beckman Lakes because of overpopulation have reduced the attractiveness of this fishery. Periodic winterkill of fish, especially largemouth bass, makes it difficult to establish a diversified sport fishery. Establishing northern pike population in Beckman Lake has met with poor success.

6. Water Resources:

Zander and Beckman Lakes together comprise only 93 acres and, therefore, are limited in their capability to accommodate use. Beckman Lake is highly eutrophic and has a profuse growth of macrophytes and algae. Water-dependent activities like fishing, boating and swimming have been severely affected by the dense growth of high aquatic plants, and offer little additional water use potential without rectifying this situation.

D. Recreation Needs and Justifications

The Wisconsin Outdoor Recreation Plan of 1977 cited the following needs for additional recreational facilities for Planning Region #3 (comprised of Sauk, Richland, Grant, Iowa, Lafayette and Green Counties) by 1985.

Developed Camping	-	1,977 campsites
Picnicking	-	1,522 tables
Hiking trails	-	360 kilometers (222 miles)
Horseback riding trails	-	50 kilometers (31 miles)
Snowmobiling trails	-	360 kilometers (222 miles)
Bicycling trails	-	60 kilometers (37 miles)
Primitive camping	-	105 sites

As six counties are covered in this analysis, it cannot be applied with reasonable certainty to the needs of the region more immediate to the project area. As the properties are located close to the western edge of Green County near Lafayette County, an analysis of the recreational needs of these two counties gives a more reliable indication as to needs that should be considered relative to the project area. They follow.

1. Green County: From Green County Outdoor Recreation Plan, February 1979.
Population - 1970 Census - 26,714 (predominantly rural) up 3% from 1960.

Recreation Needs:

Facilities	1978 Supply	1990 Needs	1990 Surplus or Deficit
Campsites	42	29	+ 13
Picnic tables	303	533	- 230
Swimming beach (acres)	1/2	3	- 2 1/2
Golf courses (9-hole equivalent)	5	.3	+ 2
Canoe streams (miles)	75	24	+ 51
Horseback riding trails (miles)	0	11	- 11
Snowmobiling trails (miles)	23	19	+ 4

State Wildlife Areas and Public Hunting Grounds - Green County 1978

	State-owned	Leased
Albany	1,467	802
Brodhead	65	0
Brooklyn	583	1,500
Browntown	640	80
Liberty Creek	505	102
New Glarus	0	2,873
	3,260	5,357

Note: Leased acres are privately owned and can vary in quality and quantity from year to year. The report also stated that even though attendance data from existing campgrounds showed no need for additional camping in Green County, the amount of camping on uncontrolled sites within the county indicated that there is a need for quality camping areas. The report further states that Green County should provide additional hunting opportunity by acquiring more public lands and increasing game abundance by improving game habitat.

2. Lafayette County: From Lafayette County Outdoor Recreation Plan, June, 1979. Population 1970 census - 17,456, predominantly rural down 4% from 1960 census.

Recreational Needs:

Facilities	1978 Existing	1990 Needs	1990 Surplus or Deficit
Family camping sites	617	258	+ 359
Picnic tables	317	439	- 122
Swimming beach (acres)	0.4	2	- 1.6
Golf course (9-hole equivalents)	2	2	0
Canoe streams (miles)	80	28	+ 52
Horseback riding trails (miles)	0	11	- 11
Snowmobile trails (miles)	36	11	+ 24

State Wildlife Areas and Public Hunting Grounds - Lafayette County 1978.

Name of Area	State-owned	Leased
Argyle	—	943
Yellowstone	2,198	—
	2,198 acres	943 acres

Note: Leased acres are privately owned and can vary in quality and quantity from year to year. Lafayette County is considered to have an insufficient acreage in public hunting grounds and also to have a need for additional fishing opportunity.

Both counties are short of surface waters and consequently activities dependent on this resource are curtailed. Both counties need additional picnic capacity and trails of all kinds. Although hiking trail need has not been ascertained from existing use patterns, a need for this activity is felt to exist. Green County is very low in camping facilities but Lafayette County has a surplus, most of which is within 12-15 miles of the project area. Cross-country skiing is another activity for which there is no public facility in either county. This sport is rapidly gaining in popularity and public cross-country ski trails would in all probability be well used.

E. Analysis of Alternatives

1. No Change - Status Quo:

This alternative would provide that the properties continue operating as they are now. No organized attempt would be made to overcome the listed management problems and there would be little change in the degree of resource protection. Any development would be done as it became necessary or desirable, if and when funds became available.

2. Convert All of Project Area into a State Park:

Phasing out the wildlife area and converting the entire property into a state park would provide additional facilities for picnicking, swimming and camping to help meet the recreational needs of the south central region of the state. However, this would reduce the amount of public hunting area that is in short supply in this region.

3. Phase Out State Park and Convert it to Wildlife Area:

Phasing out the park would remove the barrier that now exists between the eastern and western portions of the wildlife area and would provide better hunter distribution in time and space. However, this change would not entirely solve the problem of heavy hunter concentrations. The expenses of park facility removal, loss of park oriented recreation and wildlife habitat restoration would exceed the benefits.

4. Redesignate as a State Recreation Area:

Redesignation to a recreation area would permit hunting and park type recreational use to continue in the project area with the best possible mix of both. Statute 23.091 authorized the establishment of use zones within the project area to provide for a full range of recreational uses, including hunting and fishing. The DNR may adopt rules to control uses within zones and may limit the number of persons using any zone.

5. Expand the Property Boundary:

The project boundary would be expanded to the north and east to provide additional acreage for public hunting.

F. Recommended Management and Development Alternative

The management and development alternative that seems to be the most appropriate for the park and wildlife area is alternative #4 - Redesignate to a "State Recreation Area."

In summary, as a State Recreation Area the wildlife area and state park will be managed as a single unit. The wildlife area portion will continue to be managed for public hunting and fishing with no increase in acreage. Constructing a northern pike rearing pond in the southeast portion of Beckman Lake is the only improvement proposed. A waterfowl rest area may be created.

Also under this alternative, Cadiz Springs will continue to be operated as a day-use park with no increase in size. Improvements will consist of developing a small 5 acre picnic and play area near the northeast corner of Zander Lake. Fencing will be placed along the town road adjacent to the use area to discourage the public from parking on the roadside and walking into the park. Some additional hiking trail construction is also planned.

APPENDIX I

Comments By Advisory Councils

And Department Response

UWEC UNIVERSITY OF WISCONSIN-EAU CLAIRE/EAU CLAIRE, WISCONSIN 54701

DEPARTMENT OF GEOGRAPHY

November 13, 1979

D. J. Mackie
Bureau of Parks
Box 7921 DNR
Madison, WI 53707

Dear Don:

A fundamental question "Why is the Bureau of Parks much more up-to-date and realistic in their Master Planning?" Milt's program is very good but some of the others are in the middle ages and too often they completely disregard Manual Code 1031.1.

The Browntown--Cadiz Springs State Recreation Area Master Plan is innovative and realistic. The Task Force has diagnosed the project characteristics and use potential honestly and thoroughly. The Wild Resources Advisory Council's remarks and suggestions are in no way intended to discredit a very worthy Task Force document. The Council wishes to supply the dimension of a neutral wild resource interested group opinions to the process.

Sincerely,

Henry W. Kolka

Henry W. Kolka, Chairperson
Wild Resources Advisory Council

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Comment #6

Mentioning the necessity of protecting the Browntown Oak Forest Scientific Area and monitoring the quality of the site environment at reasonable intervals is agreeable, but rather than listing as a fifth objective it will be added to the Land Use Potential section on page 4.

If the recommended fisheries management proposal fails, other management options are available such as prohibiting or strictly limiting the harvest of both northern pike and bass on Beckman Lake. Utilizing an aeration system in Beckman Lake to prevent freeze out was considered as a management alternative but not recommended because of the high cost. However, if all other management proposals fail and because of the high demand for fishing opportunities in Green County, installation of the aeration system may be justified.

Thank you for the Council's review and comments on the Browntown - Cadiz Springs Master Plan.

DJK:je

cc: J. L. Treichel - P&R/4

→ JLT

STATE OF WISCONSIN

CORRESPONDENCE/MEMORANDUM

Date: December 20, 1979 File Ref: 2510

To: R. Lindberg - PLN/6

From: D. J. Mackie

Subject: WRAC Comments on Browntown - Cadiz Springs Master Plan

The following is our Bureau's reaction to the review comments of the Wild Resources Advisory Council on the Browntown - Cadiz Springs Master Plan.

Comment #1

The number of acres of leased lands were reduced to 80 acres (current figure) for two reasons. First, changes in ownership and the resultant loss of some leases caused gaps in blocks of land leased for hunting. These gaps created management problems because of the difficulty in proper signing of the boundaries to prevent trespassing on unleased land. Secondly, the leased lands were primarily monotypic agricultural lands with little if any game cover.

Comment #2

The Department will continue to keep owners of private inholdings aware that it is a willing buyer in the event that the owner wants to sell. Closing of any town road requires the cooperation and approval of the town board. Until legislation gives the Department the power to close town roads within its project boundaries no other means are available.

Comment #3

If the Department continues to provide game food patches upslope from the Browntown Oak Forest Scientific Area, proper agricultural practices will be used to prevent any erosional impact on the scientific area.

Comment #4

We appreciate WRAC's endorsement of the recommended "Recreation Area" designation.

Comment #5

Relocating the swimming beach to the north shore of Zander Lake was a development alternative considered as part of the master planning process, but not recommended. It was recognized that relocating the beach would violate environmental protection standards including being very costly. The present beach will remain as is.

Browntown--Cadiz Springs State Recreation Area Master Plan

Overview -

The Wild Resources Advisory Council is impressed with the Property Task Force presentation of the trials and tribulations and the assessment of the property's use capabilities, since its feeble conception thirty years ago. The Council recognizes the wisdom of the Task Force in changing its primary goal from wildlife game emphasis to state recreation area emphasis. This shift, based on past records, will serve the majority of present and future users more completely and more satisfactorily. The WRAC strongly supports the Task Force recommendation of expanding the present property holdings of 643.92 acres to 957.95 acres in order to (quote--pp. 9, paragraph 4 under Lang Acquisition) "consolidate state ownership within the recreation area boundaries, insure protection of the watershed in the northwest portion of project area and increase management possibilities. The Council also considers this additional acquisition as essential in preserving the integrity and providing legitimate control of the recreation area. This process will also provide another chunk of public land to a county that is basically low in this category.

Review, Comments and Recommendations:

1. pp. 3 under E Browntown Public Hunting Area and Browntown Wildlife Area -

Considering the increase of no trespass signs on private wild areas, throughout Wisconsin, the WRAC doesn't understand why all but a skimpy 128 acres of leased approximately 4,000 acres of Public Hunting Area has been cancelled. With over paucity of public use land in Green County this step is considered incomprehensible by the Council.

2. pp. 4 item E Recreational Potential

WRAC recognizes the incompatability of private inholding and the town road servicing these properties to the goal and objectives of the Task Force master plan. The Council recommends and urges stiffer measures to solve this dilemma. The Council supports the Task Force recommendation of excluding the so called inappropriate recreational activities listed under item E.

3. pp. 4 item F Land Use Potential, paragraph 3

The Evaluation and Education Committee of the Scientific Areas Preservation Council expresses some concern regarding agricultural practices on higher private lands fringing the Browntown Oak Forest Scientific Area (Designated number 23). WRAC recommends that the superintendent of the Green County Work Unit direct a staff person to assess the potential erosional impact from agricultural lands fringing the Scientific Area. If a problem does exist SAPC would be indebted and very appreciative of your conclusions and recommendations regarding the scientific area.

4. pp. 7 item 3 under heading A Management

WRAC endorses the alternative "Redesign the Browntown Wildlife Area and Cadiz Springs State Park as a recreation area under Section 23.091, Wis. Stats."

5. pp. 8 item C under heading Development Alternatives

WRAC recommends the reassessment of the proposal to relocating the swimming beach to the north shore of Zauder Lake. It doesn't seem a very wise move of the project planners to recommend violation of DNR and NRB environmental protection guidelines. A better alternative would be to expand the present site or, if that is impossible, to restrict and regulate number of users.

6. pp. 8, 9 and 10 headings VI, VII and VIII

The WRAC endorses the topics; Recommended Alternatives, Goals and Objectives and Proposed Action. In these categories the Task Force shows sensible and innovative levels of project use assessment and solution. The Council recommends that item 5 be added to the objectives (top of page 9). 5- Provide adequate protection for Browntown Oak Forest Scientific Area and to monitor the quality of the site environment at reasonable intervals.

The Council agrees that flatwater fishing sites in Green County are rare and at premium. However if the proposed management of fisheries (item 1 under Management and Operations) fails, as it has in the past, the Council recommends that a different use alternative be considered.

Reviewed by Henry W. Kolka
Chairperson, Wild Resources
Advisory Council